

CORNELL UNIVERSITY OFFICIAL PUBLICATION

Volume XXV

Number 4

Announcement of the College of Architecture for 1933-34 and 1934-35

Architecture
Landscape Architecture
Painting
Sculpture

Ithaca, New York
Published by the University
August 15, 1933

THE UNIVERSITY CALENDAR FOR 1933-34

1933

FIRST TERM

Sept.	18, <i>Monday</i> ,	Entrance examinations begin.
Sept.	25, <i>Monday</i> ,	{ Registration and assignment of new students.
Sept.	26, <i>Tuesday</i> ,	
Sept.	26, <i>Tuesday</i> ,	{ Registration and assignment of old students.
Sept.	27, <i>Wednesday</i> ,	
Sept.	28, <i>Thursday</i> ,	Instruction begins at 8 A. M.
Oct.	20, <i>Friday</i> ,	Last day for payment of tuition for the first term.
Nov.	29, <i>Wednesday</i> ,	Instruction ends at 6 P.M.
Dec.	4, <i>Monday</i> ,	Instruction resumed at 8 A.M.
Dec.	23, <i>Saturday</i> ,	Instruction ends at 1 P.M.
	1934	{ Thanksgiving Recess
Jan.	8, <i>Monday</i> ,	
Jan.	11, <i>Thursday</i> ,	Instruction resumed at 8 A.M.
Jan.	29, <i>Monday</i> ,	Founder's Day.
Feb.	7, <i>Wednesday</i> ,	Term examinations begin.
Feb.	8, <i>Thursday</i> ,	Term ends.
		A holiday.

SECOND TERM

Feb.	9, <i>Friday</i> ,	Registration of all students.
Feb.	12, <i>Monday</i> ,	Instruction begins at 8 A.M.
March	5, <i>Monday</i> ,	Last day for payment of tuition for the second term.
March	31, <i>Saturday</i> ,	Instruction ends at 1 P.M.
April	9, <i>Monday</i> ,	Instruction resumed, 8 A.M.
May	—, <i>Saturday</i> ,	Spring Day: a holiday.
June	4, <i>Monday</i> ,	Term examinations begin.
June	12, <i>Tuesday</i> ,	End of term examinations.
June	18, <i>Monday</i> ,	COMMENCEMENT.

THE COLLEGE OF ARCHITECTURE

THE FACULTY

LIVINGSTON FARRAND, A.B., M.D., L.H.D., LL.D., President of the University.

ALBERT RUSSELL MANN, B.S.A., A.M., D.Sc., D.Agr., LL.D., Provost of the University.

GEORGE YOUNG, JR., B.Arch., Dean and Professor of Architecture.

CLARENCE AUGUSTINE MARTIN, D.Sc., Professor of Architecture, Emeritus.

OLAF MARTINIUS BRAUNER, Professor of Drawing and Painting.

ALBERT CHARLES PHELPS, B.S., M.Arch., World War Memorial Professor of Architecture.

FRANCKE HUNTINGTON BOSWORTH, A.B., Andrew Dickson White Professor of Architecture.

CHRISTIAN MIDJO, Professor of Freehand Drawing and Modeling.

RALPH WRIGHT CURTIS, M.S.H., Professor of Ornamental Horticulture.

LEROY P. BURNHAM, M.S.Arch., Professor of Architecture.

ALEXANDER DUNCAN SEYMOUR, B.S.Arch., Professor of Architecture.

EUGENE DAVIS MONTILLON, B.Arch., Assistant Professor of Landscape Architecture.

HUBERT E. BAXTER, B.Arch., Assistant Professor of Architecture.

WALTER KING STONE, Assistant Professor of Drawing.

WILLIAM MCLEISH DUNBAR, B.Arch., Assistant Professor of Architecture. (Absent on leave, 1933-34.)

EDWARD LAWSON, B.S., M.L.D., F.A.A.R., Assistant Professor of Landscape Architecture.

DONALD LORD FINLAYSON, M.A., Assistant Professor of Fine Arts.

HARRY P. CAMDEN, B.F.A., F.A.A.R., Assistant Professor of Sculpture and Drawing.

JOHN A. HARTELL, B.Arch., Assistant Professor of Architecture.

JOHN N. TILTON, JR., M.Arch., Assistant Professor of Architecture.

KENNETH L. WASHBURN, M.F.A., Instructor in Freehand Drawing.

LUDLOW DELNOCE BROWN, B.Arch., Assistant in Architecture.

REBECCA S. HARRIS, A.B., Librarian.

MRS. E. G. DAVIS, Assistant Librarian.

MILDRED E. VAN ALSTYNE, Secretary to the Dean.

ALUMNI ADVISORY COUNCIL IN LANDSCAPE ARCHITECTURE

BRYANT FLEMING, B.S., '01.

GILMORE D. CLARKE, B.S., '13.

THE UNIVERSITY

Cornell University is one of those institutions which owe their origin to the Morrill Land Grant Act of 1862. That act, coupled with the foresight and generosity of Ezra Cornell, brought about the incorporation of the University in 1865. Its plan of organization and its initial development were the work of its first president, Andrew D. White.

The policies of those two men, the period of foundation, and the geographical situation have combined to give this University a distinctive character, related both to the older universities of the East on the one hand and to those of the Middle West on the other. The terms of the Morrill Act emphasized instruction in "agriculture and the mechanic arts," but at Cornell the foundations were made as broad as the whole field of learning. In the humanities and the sciences a strong faculty was established and from time to time other faculties have been added. Along with Arts and Sciences, there are now faculties of Agriculture, Architecture, Engineering, Home Economics, Law, Medicine, and Veterinary Medicine, and a Graduate School.

In recent years a plan of selective admission has kept the number of students nearly constant—about six thousand. The faculty numbers nine hundred and seventy-five professors, assistant professors and instructors. Cornell is therefore one of the larger universities but not among the largest.

Ithaca is in the justly celebrated Finger Lakes region of Central New York State. The town, of about twenty thousand, built originally on level land at the head of Cayuga Lake, now covers also the slopes of hills on three sides. The country round about is rolling, dotted with lakes and cut by gorges characteristic of this section. Elevations vary from four hundred to two thousand feet above sea level. By rail, Ithaca is seven hours from New York City and twelve hours from Chicago. The University is on the summit of one of the hills which overlook the town and the lake. From the 350-acre campus there are wide views over the hills, the valley, and the lake. The value of such a setting in an educational process is imponderable, but in the experience of generations of Cornell students it is rated highly.

Each of the colleges of Cornell University is a more or less self-contained unit, free to work out its own ideas in its own way, but nevertheless with the full support and cooperation of the University as a whole and of the other colleges. A student in any of the colleges has at his disposal the common facilities of the University, such as the playgrounds, the Infirmary, the University Library, etc. He is also free to elect work in any college of the University within such limits as may be set by the faculty of his own college. The work of the College of Architecture is so planned as to encourage its students to make the

fullest use of the University as a whole and to allow each student to do this in the way best suited to his own needs.

THE COLLEGE OF ARCHITECTURE

The College was founded in 1871. For many years it offered training in Architecture only. During that period the college grew steadily in number of students and teachers and gathered an excellent library. By 1917 the students numbered 160 and the Faculty thirteen. In 1922 the Department of Landscape Architecture, hitherto for ten years a department of the College of Agriculture, was transferred to the College of Architecture. The union thus effected has stimulated and enriched all the work of the College. Courses in Painting and Sculpture, organized in 1921, have likewise demonstrated the value of related lines of work carried on in intimate contact. By 1922 the number of the students had increased to the practicable and very nearly to the desirable limit. Since that time limitation of numbers has been in effect.

The College has more than one thousand alumni, many of whom have attained high rank in their professions, and who give the College spirited support. As students they were of wide geographical distribution, and they are now to be found in all parts of the United States and in some foreign countries.

The College of Architecture is one of the smaller colleges of the University, having eighteen teachers and about one hundred and seventy students. Personal relationship between student and teacher is so easy and constant that the student enjoys particular consideration of his personal needs. Because much of the College's work is of a creative sort, instruction is necessarily in the form of individual criticism. As a natural result the College has the character of a small, compact, intimate group with well focused objectives.

The College is a professional school and its courses lead to professional degrees, but over and above this it is an educational institution committed to the idea that technical proficiency alone is wholly inadequate, even for strictly professional needs. This idea governs not only the framework of the curricula but also the way in which each subject, whether technical or not, is presented and the manner in which the whole is administered.

Relations between this College and the others in the University (notably Arts and Sciences, Engineering, and Agriculture) are intimate, cordial, and reciprocal. Thus students in any of the colleges have the advantage not only of the best instruction obtainable in a given subject, but also of widely varying points of view.

In the courses in Design the collaborative idea is stressed wherever possible. Problems involving the joint efforts of the Architect and the Painter or Sculptor are given from time to time, but more important is the fact that the students are constantly working side by side and frequently under the same instruction.

As between Architecture and Landscape Architecture the correlation is naturally even closer and more thorough. In the first two years the work is identical. Thereafter a number of problems in Design are given jointly and from time to time the students work in collaboration. The professors of Architecture are constantly in touch with the Landscape students and vice versa.

The student's work ordinarily is planned to lead up to one of three professional degrees. It is inadvisable for anybody not vitally interested to attempt the work of any of these courses of study. Typical curricula are given on pages 13-16. In each case five years is the normal period, though students with exceptionally thorough preparation can fulfill the requirements in somewhat less time. While individual cases vary, some students entering the College after taking an A.B. degree have been able to complete the work for the professional degree in three and one-half years. Normally about thirty per cent of the entering class will have had previous college experience of some sort. The rate of a student's progress in the College is determined in large part by the quality of his work and not alone by the quantity of it. The amount of work that a student is permitted to carry each term is dependent upon the excellence of his scholastic record, hence the actual time required for the completion of the course will depend upon his ability as indicated by that record. The time element in the preparation for any creative profession is such, however, that crowding of the work is deemed unwise.

The courses in Architecture and Landscape Architecture differ but little throughout the first three years. This arrangement makes it possible for the student to vary his objective as his developing capacities and tastes may indicate.

In each of the courses about twenty per cent of the work is elective. Elective subjects are selected by the student himself, under advice and approval by a faculty committee. Courses may be chosen from the offerings of any college in the University. This work is intended to broaden the student's outlook and to develop whatever natural interest he may have in some field or fields not directly related to his technical work. A minor part of the elective program may be used to strengthen the student in any one department of his technical work in which he may prove to be especially interested and able or somewhat deficient, as the case may be.

Each of the curricula is so framed as to establish in the first year the foundation for each of the major subjects of the technical program. A small amount of elective work is introduced in the second year, and thereafter, as the technical subjects are completed, elective work is added. Thus the first-year student gains the best opportunity to determine his fitness for the work and his chance to develop outside interests comes when his increasing maturity makes it most valuable.

The student entering the College finds himself in an atmosphere and a life that is distinct and different from that of his other contacts. There is a spirit of solidarity within the College which is nevertheless

not one of isolation. The standards, though high, are not rigid. The student body is a hard working, hard playing unit having free and easy contacts with other departments of University life.

BUILDINGS AND EQUIPMENT

The College occupies the third and fourth floors and a portion of the basement of White Hall, the top floor of Franklin Hall, and parts of Morse Hall. The college offices, the college library, the lecture room, and exhibition rooms occupy the third floor of White Hall. A suite of three drafting rooms, opening together so as to form virtually a single room 45 x 156 feet, occupies the entire fourth floor. On the top floor of Franklin Hall and in Morse Hall are well lighted studios devoted to the work in freehand drawing, painting and modeling.

The college library is well equipped as a working collection and for research. The student is permitted and encouraged to use the books, photographs and drawings freely.

A carefully selected collection of about thirty thousand lantern slides is used constantly in connection with the lectures on history, theory, and construction.

The College also maintains an art gallery in Morse Hall for the temporary exhibition of paintings, etchings and other prints, architectural drawings and photographs, and examples of various types of applied art. It is the aim of the college to bring to all students of the University the benefits of contact with the work of eminent artists, architects, and artisans.

In the exhibition rooms in White Hall are shown current student work in design, painting, and drawing.

SUMMER SESSION

For a number of years past, courses in Architectural Design, Drawing, Painting, and the History of Art have been offered in the Summer. The details of this work vary from year to year according to the demand for instruction.

INFORMAL STUDY

Students who, having attended another institution of collegiate grade, are admitted with a considerable amount of advanced credit, and those who have done work of especially high grade in this College, may be admitted to an Informal Study Course designed to facilitate progress. Admission to an Informal Study Course may be granted provisionally by the Committee on Admissions, but in every case must be confirmed by the Faculty. A student admitted to such a course is put under the personal direction of some member of the Faculty. He may then depart from strict curricular requirements in such main branches as the Faculty may designate in order to do special work under his director. The student's progress is measured from time to time by the Faculty and commensurate credit is voted towards the degree.

LECTURES ON REGIONAL AND CITY PLANNING

Each year for the last several years lectures on city and regional planning have been given by non-resident lecturers under the joint auspices of the Colleges of Architecture and Engineering. Lectures of this sort will be scheduled from time to time. Their purpose is to give to future engineers, architects, landscape architects, etc., an interested and sympathetic, because better informed, attitude toward the broader phases of planning. The instruction is aimed, not at training technicians in city planning, but at making members of related professions better collaborators. In 1932-33 the non-resident lecturers were: Russell V. Black, City Planner; Gilmore D. Clarke, Landscape Architect of the Westchester County Park Commission; Justin R. Hartzog, City Planner, associate of John Nolen; and Colonel D. H. Sawyer, Director of the Federal Employment Stabilization Board in Washington, D. C.

ADMISSION TO THE COLLEGE

The requirements and rules of admission will be found in the General Information Number, a copy of which will be sent on request by the Secretary of the University.

Prospective students should address the Director of Admissions, Cornell University, Ithaca, N. Y., asking for forms to be used in making application for admission.

Applications for admission in September should be received by June 1. For admission in February applications should be received by January 1. Most classes, particularly those of the first year, are run on a yearly basis. It is therefore difficult at midyear to arrange satisfactory schedules for beginners.

ADMISSION TO ADVANCED STANDING

A student who has already attended a technical school or other institution of collegiate rank may be admitted at the beginning of the first or, if a satisfactory schedule of work can be arranged, at the beginning of the second term. Such an applicant is required to fulfill all academic and other entrance requirements.

In addition he should file with the Director of Admissions of the University an official transcript of record of his work at the institution already attended together with a certificate of honorable dismissal therefrom. He should also send a catalogue of the institution, writing his name thereon, and marking the courses which he has taken as listed in the official transcript.

Advanced credit for courses in the College of Architecture is given only upon examination by the department concerned but a preliminary ruling will be made by the Committee on Admissions on the evidence submitted.

ADMISSION OF SPECIAL STUDENTS

Special students are primarily those of advanced experience in the practice of their art. They must be at least twenty-one years of age, and must have had a high school training or its equivalent, including a working knowledge of plane geometry and solid geometry and, in the case of architects, of algebra through quadratic equations. They should have at least three years' practical experience or its equivalent and submit with their application examples of their work or draftsmanship. Special students may be admitted at the beginning of either term, but applications should be filed by June 1, or January 1. See also the General Information Number for requirements concerning registration fee and vaccination certificate. A high scholastic performance is expected of special students and is made a condition of their remaining enrolled in the college. The college does not issue a certificate for special work.

Special Students in Fine Arts are admitted only on evidence of ability in drawing, painting, or modeling of such outstanding quality as to set a standard for the regular students. Each application will be considered on its merits but the applicant must present evidence to show, first, qualifications and proved ability to do advanced work in some branch of the fine arts; and second, general academic training perferably equivalent to graduation from an institution of collegiate rank but in no case less than the equivalent of graduation from an approved high school. If admitted on the lesser requirement the student will be expected to take, in addition to drawing, painting, etc., such general work as the Faculty may prescribe.

ADMISSION AS A GRADUATE STUDENT

All correspondence relating to graduate work should be addressed to the Dean of the Graduate School.

In all departments of the College of Architecture work is arranged to meet the special needs of graduate students. Candidates for advanced degrees in architecture or in landscape architecture must be graduates of schools of equal standing with the College of Architecture, and their training in design or other subjects elected for graduate study must be equivalent to the training required in the same subjects by the College of Architecture for the degree of Bachelor of Architecture or for the degree of Bachelor of Landscape Architecture.

For a statement of conditions governing work leading to an advanced degree in Fine Arts, see the announcement of the Graduate School.

TUITION, FEES, AND LIVING CONDITIONS

Information concerning tuition fees, living conditions, University dormitories, self-help, etc., is given in the General Information Number. This publication gives also various other items of information applicable to all students in the University. It should be read in connection with this announcement.

FELLOWSHIPS: SCHOLARSHIPS: PRIZES

For information concerning scholarships that are open to students of this college in common with other students of the University, consult the General Information Number.

A *University Fellowship* of the value of \$400 with free tuition is awarded annually for graduate study in Architecture or Landscape Architecture.

A *Graduate Scholarship* giving free tuition in the Graduate School is awarded annually for graduate study in Architecture or Landscape Architecture.

The *Charles Goodwin Sands Memorial Medal*, founded in 1900 by the family of Charles Goodwin Sands of the class of '90, is awarded for work of exceptional merit in any of the advanced courses in the College of Architecture. Two grades of medals are recognized, the silver medal and the bronze medal.

The *Clifton Beckwith Brown Memorial Medal* was established in 1901 by John Harkness Brown in memory of his brother Clifton Beckwith Brown, killed on the field of battle at San Juan Hill. A silver replica is awarded to the senior in the College of Architecture attaining the highest standing in design during his senior year, and a bronze replica to the senior taking second place. These medals are not awarded, however, solely for order of merit, the award being withheld unless the standard reached in design is considerably higher than that required for the graduation.

The *Student Medal of the American Institute of Architects* is awarded to the member of the graduating class in architecture whose record is the best throughout the entire course.

Through the *Beaux-Arts Institute of Design* numerous prizes are offered for excellence of work in design. These prizes are open to students in the College of Architecture who frequently compete for them with success and distinction to themselves and to the college.

The *Fuertes Memorial Prizes in Public Speaking* were founded in 1912 by Charles L. Baker, a graduate of the School of Civil Engineering of the class of 1886. Three prizes, one of \$125, one of \$35 and one of \$20, are awarded annually to members of the junior and senior classes in the Colleges of Engineering and Architecture for proficiency in public speaking.

The *Paul Dickinson Prize*, established in 1927 by Miss Dorothea C. Dickinson, '23, in memory of her father, consists of the income of a fund of \$500 and is awarded to the student in the first-year class of the College of Architecture whose general record is the best.*

The *Baird Prizes* are offered, one of \$30 and one of \$15, as first and second awards in a special sketch problem competition for Juniors and Seniors in the College of Architecture. The problem, lasting six days, is given during the early part of the second term and is of a decorative nature. Established in 1927, the gift of Mrs. M. Z. Baird,

the income (or, in the discretion of the Faculty of the College of Architecture, the principal) to be used for the purposes of that college; designated as a prize fund by the Faculty of that College in 1927.

The Shreve, Lamb and Harmon Professional Fellowship. This fellowship is awarded annually by the Faculty of the College of Architecture. It is open to any student on completion of his course in that College. The purpose of this Fellowship is to provide better than usual conditions under which a student may make the transition between school work and practice. The student to whom this Fellowship is awarded becomes a member of the staff of Shreve, Lamb and Harmon, Architects, New York City, for the term of one year or as otherwise arranged. During this year he will be given such work as is best calculated to advance his special ability, aptitude or interest and he will be encouraged to study the office work as he did his student work. He will be paid a salary sufficient to enable him to live decently and comfortably in or near the city of New York.

The Edward Palmer York Memorial Prizes in Sophomore Design are given for the best solution of the last one day sketch problem of each term. The prizes, of \$25 each, are from the income of a gift of Mrs. Edward Palmer York in memory of her husband, who graduated from the College of Architecture with the class of 1889.

The Gargoyle Prize of \$10 will be offered in 1933-34 by Gargoyle Honorary Architectural Society, to the undergraduate member of this college who exhibits at the Summer Sketch Exhibit to be held in October the best group of sketches or measured drawings done in any medium by him during the previous summer. Sketches and drawings contributed to this exhibition should be left with the college librarian at registration time in September.

Medals and prizes were awarded in 1932-33 as follows:

The Charles Goodwin Sands Medal: A first medal to Morris Early Trotter, jr.; second medals to George Irving Bottcher, Frederick Pareis Clark, Burton Sparling Davis, Henry Lawrence Eggers, Lawrence Pearson Fridley, Thomas Lee Hand, James McKenzie Lister, and Emerson Stewart Williams.

The Clifton Beckwith Brown Medal: A second medal to James McKenzie Lister.

Student Medal of the American Institute: Emerson Stewart Williams.

The Paul Dickinson Prize: Edwin Cooper Rust.

The Baird Prizes: The first to Robert Sieber Kitchen, the second to Mary Ramsay Brown.

The Edward Palmer York Prizes: In the first term to Serge Peter Petroff, in the second term to Elmer John Manson.

The University Fellowship for the year 1933-34 was awarded to James McKenzie Lister, A.B. (Harvard), B.L.A. (Cornell).

The University Scholarship for the year 1933-34 was awarded to Harry Haas, B.Arch. (Tulane).

COURSES OF STUDY

I. The Course Leading to the Degree of BACHELOR OF ARCHITECTURE.

This course is designed for the student who expects to become a practicing architect.

II. The Course Leading to the Degree of BACHELOR OF LANDSCAPE ARCHITECTURE.

This course is intended for the student who expects to become a practicing landscape architect. The aim of the course is to give a broad basic training in the design of out-of-door space for human use with due recognition of the aesthetic values involved in that design and an adequate accessory training in horticulture, in engineering, and in architecture.

III. The Course Leading to the Degree of BACHELOR OF FINE ARTS.

This course is designed for the student who expects to become a painter or sculptor but who is desirous also of the general education obtainable in a large university. It should be noted that about thirty per cent of the work in this course is non-technical.

IV. A Course Leading to the Degree of BACHELOR OF ARCHITECTURE and Related Especially to CONSTRUCTION.

This course is designed for the student who plans to engage particularly in the structural field of architectural practice or who wishes to prepare himself for work in some phase of the building industry.

SEQUENCE OF COURSES LEADING TO DEGREES

The schedules on the next four pages show the normal sequence of the courses of instruction leading to the several degrees. In order to qualify for the degree corresponding to any one of the four courses of study, the student must complete the required work in Hygiene and Military Drill (or Physical Training; see the General Information Number) and the courses of instruction that are comprised in that curriculum. Normally any of these courses of study requires five years for completion. (See also page 6.)

ELECTIVES

In each of the courses offered, approximately one-fifth of the required work is elective. No restriction in the choice of electives is made except that each student before starting his elective work is required to file with the College office his entire program of elective study, approved by some member of the Committee on Electives.

I. *The Course Leading to the Degree of BACHELOR OF ARCHITECTURE*

Of these four subjects, those which have been presented for entrance need not be taken in the University:

Trigonometry (Mathematics, 3).....	3
Advanced Algebra (Mathematics, 2).....	3
Physics (Physics, 3 and 4).....	6
Chemistry (Chemistry, 101 and 105).....	6

**FIRST YEAR	Design, 110.....	4	3
	Freehand Drawing, 310.....	3	3
	Descriptive Geometry, 510.....	3	3
	Mathematics, 2 or 3.....	3	0
	Mathematics, 8.....	0	3
	Language*.....	3	3
		16	15
**SECOND YEAR	Design, 111.....	4	4
	Mechanics of Materials, 210.....	0	3
	Modeling, 335.....	2 or	2
	Elements of Color, 340.....	2 or	2
	History of Architecture, 410-411.....	3	3
	Perspective, 511.....	0	1
	Mathematics, 8.....	3	0
	Electives.....	3	3
		15	16
THIRD YEAR	Architectural Design, 112.....	5	5
	Mechanics of Materials, 210.....	3	0
	Structural Design, 211.....	0	3
	Life Drawing, 311.....	2 or	2
	History of Architecture, 412.....	3	0
	Materials and Construction, 610.....	3	3
	Testing Materials, C. E. 227.....	0	1
	Elective.....	3 or	3
		16	15
FOURTH YEAR	Architectural Design, 113.....	0	9
	Structural Design, 212.....	2	0
	History of Art, 414.....	2	2
	Applied Design, 611.....	9	0
	Concrete Construction, C. E. 280.....	0	3
	Elective.....	2	2
		15	16
FIFTH YEAR	Architectural Design, 113 and Thesis, 114.....	9	9
	Life Drawing, 312.....	2	2
	Elective.....	4	4
		15	15

*This requirement may be satisfied by credit earned in courses in English or in Foreign Language, as approved for individual cases.

**The University requirement in Hygiene and Military Drill must be met in these years in addition to the courses listed above.

II. *The Course Leading to the Degree of BACHELOR OF LANDSCAPE ARCHITECTURE*

Of these four subjects, those which have been presented for entrance need not be taken in the University:

	Trigonometry (Mathematics, 3).....	3	
	Advanced Algebra (Mathematics, 2).....	3	
	Physics (Physics, 3 and 4).....	6	
	Chemistry (Chemistry, 101 and 105).....	6	
**FIRST YEAR	Design, 110.....	4	3
	Freehand Drawing, 310.....	3	3
	Descriptive Geometry, 510.....	3	3
	Mathematics, 2 or 3.....	3	0
	Mathematics, 8.....	0	3
	Language*.....	3	3
		<hr/>	<hr/>
		16	15
**SECOND YEAR	Design 111.....	4	4
	Mechanics of Materials, 210.....	0	3
	Life Drawing, 311	}	
	Elements of Color, 340		
	Modeling 335		
	History of Architecture, 410-411.....	3	3
	Perspective, 511.....	0	1
	Mathematics, 8.....	3	0
	Electives.....	3	3
		<hr/>	<hr/>
		15	16
SUMMER SESSION	Woody Plant Materials 8s.....	4	
	Herbaceous Plant Materials 6s.....	2	
THIRD YEAR	Landscape Design, 150.....	4	4
	Mechanics of Materials, 210.....	3	0
	Structural Design, 211.....	0	3
	History of Architecture, 412.....	3	0
	History of Landscape Architecture, 450.....	0	3
	Plant Materials, 8.....	3	3
	Electives.....	3	3
		<hr/>	<hr/>
		16	16
FOURTH YEAR	Landscape Design, 151.....	8	8
	Planting Design, 650, 651.....	2	2
	Elementary Surveying, C. E. 110.....	3	0
	Earthwork, C. E. 296.....	0	2
	Electives.....	3	3
		<hr/>	<hr/>
		16	15
FIFTH YEAR	Landscape Design, 151 and Thesis, 152.....	8	8
	Landscape Construction, 660.....	2	0
	Theory of Landscape Architecture, 051.....	1	0
	Electives.....	4	0
		<hr/>	<hr/>
		15	8

*This requirement may be satisfied by credit earned in courses in English or in Foreign Language, as approved for individual cases.

**The University requirement in Hygiene and Military Drill must be met in these years in addition to the courses listed above.

III. *The Course Leading to the Degree of BACHELOR OF FINE ARTS*

**FIRST YEAR	Freehand Drawing, 310.....	3	3
	Composition, 325.....	3	3
	History of Painting and Sculpture, 425.....	3	3
	Descriptive Geometry, 510.....	3	3
	Language*.....	3	3
		<hr/> 15	<hr/> 15
**SECOND YEAR	Composition, 326.....	2	2
	Life Drawing, 330.....	3	3
	Color, 340***, or Modeling, 335.....	2	2
	History of Architecture, 410-411.....	3	3
	Perspective, 511.....	0	1
	Anatomy, 24.....	3	3
	Electives.....	3	2
		<hr/> 16	<hr/> 16
THIRD YEAR	Composition, 327.....	3	3
	Painting, 331, or Modeling, 336.....	4	6
	Modeling, 339***, or Color 341.....	3	0
	History of Architecture, 412.....	3	0
	Historic Ornament, 470.....	0	3
	Electives.....	3	3
		<hr/> 16	<hr/> 15
FOURTH YEAR	Composition, 328.....	4	4
	Painting, 332, or Modeling, 337.....	6	6
	Electives.....	6	6
		<hr/> 16	<hr/> 16
FIFTH YEAR	Composition, 329.....	4	4
	Painting, 333, or Modeling, 338.....	6	6
	Electives.....	5	5
		<hr/> 15	<hr/> 15

*This requirement may be satisfied by credit earned in courses in English or in Foreign Language, as approved for individual cases.

**The University requirement in Hygiene and Military Drill must be met in these years in addition to the courses listed above.

***Students majoring in painting take 340 and 339; those majoring in sculpture take 335 and 341.

IV. *A Course Leading to the Degree of BACHELOR OF ARCHITECTURE
and Related Especially to CONSTRUCTION*

The first two years are identical with Architecture.

THIRD YEAR	Design, 112	5	5
	Mechanics of Materials, 210	3	0
	Structural Design, 211	0	3
	Life Drawing, 312	2	2
	History of Architecture, 412	3	0
	Materials and Construction, 610	3	3
	Engineering Law, C. E. 290	0	3
		<hr/> 16	<hr/> 16
FOURTH YEAR	Structural Design, 212	2	0
	Concrete Construction, C. E. 280	3	0
	Materials Laboratory, C. E. 226	0	3
	Surveying, C. E. 110	3	0
	Reinforced Concrete, C. E. 285	0	3
	Foundations, C. E. 281	0	3
	Elective	3	3
	Civil Engineering or Architecture Elective	4	3
		<hr/> 15	<hr/> 15
FIFTH YEAR	Applied Design, 610	9	0
	Thesis, 114	0	9
	Elective	6	6
		<hr/> 15	<hr/> 15

COURSES OF INSTRUCTION GIVEN IN THE COLLEGE OF ARCHITECTURE

NOTE: Courses which are open to election by students not registered in the College of Architecture are marked with an asterisk (*) preceding the number of the course. The number of students that can be accepted in any course is limited.

Certain of the advanced courses in the department of Freehand Drawing and Fine Arts may be elected by specially qualified students with the personal permission of the Professor in charge of the course. See pages 16 and 17.

Students not registered in the College of Architecture are required to pay a fee of \$5 a term for each course in Design, Drawing, or Modeling, except that when the student is registered for more than two such courses the total fee shall be \$10.

THEORY OF ARCHITECTURE

012. **Advanced Theory Seminar, Elective.** First term. Credit one hour. Mr. BOSWORTH. Registration limited. Open to seniors and graduates. By appointment. Students planning to register for this course must obtain permission from Mr. BOSWORTH before registration day.

013. **Advanced Theory Seminar, Elective.** Second term. Credit one hour. Mr. SEYMOUR. Registration limited. Open to seniors and graduates. By appointment. Students planning to register for this course must obtain permission from Mr. SEYMOUR before registration day.

051. **Theory of Landscape Architecture.** First term. Credit one hour. Mr. MONTILLON. Lectures, and assigned reading. F 2:30. White 33.

070. **Landscape Seminar, Elective.** Second term. Credit one hour. Mr. ————. Open to seniors and graduates. By appointment.

*072. **Appreciation of Architecture.** Second term. Credit two hours. Mr. BOSWORTH. Open to non-technical upperclass students. No ability in drawing required. An analytical and historical study of specific examples taken from the Classic to the Renaissance period. Lectures with assigned readings, essays, and examinations. T Th 2 p. m. Goldwin Smith 120.

DESIGN

Instruction in Landscape and Architectural Design is given by the Design Staff and consists of individual criticism over the drafting board. By appointment.

110. **Design.** Throughout the year. Credit seven hours on completion of the course. Mr. HARTELL and Mr. TILTON. The first principles of architectural design and construction with drawings in pencil and ink, rendered in wash and color. Lecture, M 8, White B-10. Section A, T Th S 10-12:30; Section B, M W F 1:40-4.

111. **Design.** Throughout the year. Credit eight hours on completion of the course. Mr. HARTELL. Prerequisite course 110. A series of problems in architectural composition and planning. For students in landscape architecture the second term of this course will include a series of major problems in landscape design and will be accompanied by lectures in the theory of landscape design. F 2:30———. Mr. MONTILLON.

112. **Architectural Design.** Throughout the year. Credit ten hours on completion of the course. Messrs. BOSWORTH, BURNHAM, and SEYMOUR. Prerequisite course 111. A series of problems in architectural composition and studies of detail. One problem each term is identical with that given in course 150.

113. Architectural Design. Throughout two terms. Credit eighteen hours on completion of the course. Messrs. BOSWORTH, BURNHAM, and SEYMOUR. Prerequisite course 112. This course is a prerequisite for the thesis.

114. Architectural Thesis. Credit nine hours. Prerequisite course 610 and (except for students in the Construction Option) two terms of course 113.

150. Landscape Design. Throughout the year. Credit eight hours on completion of the course. Messrs. MONTILLON and LAWSON. Prerequisite course 111. A series of problems in landscape composition and studies of detail. One problem each term is identical with that given in course 112. Discussion periods as announced.

151. Landscape Design. Throughout three terms. Credit twenty-four hours on completion of the course. Messrs. MONTILLON and LAWSON. Prerequisite course 150. Discussion periods as announced.

152. Landscape Thesis. Credit eight hours. Prerequisite course 151.

170. Architectural Rendering. First term. Credit two or three hours as arranged with the Instructor. Mr. SEYMOUR. Prerequisite course 110. By appointment. Registration limited. Open only to students in Architecture and Landscape Architecture. Students must obtain permission from Mr. SEYMOUR before registering for this course.

THEORY OF CONSTRUCTION

210. Mechanics of Materials. Throughout the year. Credit three hours each term. Prerequisite Mathematics 8. Messrs. YOUNG, BAXTER, and BROWN. First term; a brief study of the principles of analytic and graphic statics. Recitations. Section A, M W F 9. Section B, T Th S 9.

Second term. The effects of loading in producing stress and deformation in beams, columns, and masonry. Two recitations and one computing period. Section A, M W 9; Th 1:40-4. Section B, T Th 9, Th 1:40-4, White B 10.

211-212. Structural Design. First term. Credit three hours. Second term. Credit two hours. Prerequisite course 210. Messrs. YOUNG and BAXTER. The principles studied in course 210 are applied to the structural design of such structural elements as occur frequently in the practice of Architecture and Landscape Architecture. Lectures, computations, and reports. First term, M W F 1:40-4; second term, M W 1:40-4. White B 10. Course 211 is a prerequisite for Concrete 280.

FREEHAND DRAWING AND FINE ARTS

(See Note, page 17)

Composition

Composition courses consist of the study and application of composition by means of a series of problems in pictorial and decorative composition, or in sculptural composition. These courses are required of students in Fine Arts and are open to restricted election by others. Each course or its equivalent is prerequisite for the succeeding course.

***325. First Year Composition.** Credit 2 hours each term. Mr. STONE. W or F 1:40-4.

326. Second Year Composition. Credit 2 hours each term. Mr. CAMDEN. By appointment.

327. Third Year Composition. Credit 3 hours each term. Mr. CAMDEN. By appointment.

328. Fourth Year Composition. Credit 4 hours each term. Mr. CAMDEN. By appointment.

329. Fifth Year Composition. Credit 4 hours each term. Mr. MIDJO. By appointment.

Drawing and Painting

The drawing courses consist of the study of the representation of form generally and the human figure in black and white and color. In the first year the course embraces freehand perspective, outline and shaded drawing of the geometric model and the cast. In the second year it consists of charcoal drawing from the cast or from life, continuing in succeeding years as the study of the human figure in color.

310. **First Year Drawing.** Credit 3 hours each term. Given especially for students in the College of Architecture. Mr. WASHBURN. Sec. A—M W F 1:40-4. Sec. B—M W F 10-12:30. Franklin Hall 37.

311-312. **Life Drawing.** Credit two hours each term. Messrs. BRAUNER, MIDJO, and WASHBURN. Given particularly for students in Architecture and Landscape Architecture. Not given in 1933-34.

330. **Second Year Drawing.** Credit 3 hours each term. Messrs. BRAUNER, MIDJO, and WASHBURN. M T W 1:40-4. Franklin Hall 39.

331. **Third Year Drawing and Painting.** Credit 4 hours first term, 6 hours second term. Messrs. MIDJO and BRAUNER. M T W Th 1:40-4. Criticism M W.

332. **Fourth Year Painting.** Credit 6 hours each term. Messrs. BRAUNER and MIDJO. Daily 10-12:30. Criticism, M W F. Franklin Hall 38.

333. **Fifth Year Painting.** Credit 6 hours each term. Messrs. BRAUNER and MIDJO. Daily 10-12:30. Criticism, M W F. Franklin Hall 38.

Modeling

The courses in Modeling begin with the study in clay of architectural ornament and the antique and continue as modeling of decorative composition and from life. Each course is prerequisite for the succeeding course.

*335. **Elementary Modeling.** Credit 2 hours each term. Mr. CAMDEN. Prerequisite 310. Sec. A—M W 1:40-4. Sec. B—Th S 10-12:30. Morse Hall.

336. **Third Year Modeling.** Credit 4 hours first term; 6 hours second term. Mr. CAMDEN. M T W Th 1:40-4. Criticisms as arranged. Morse Hall.

337. **Fourth Year Modeling.** Credit 6 hours each term. Mr. CAMDEN. Daily 10-12:30. Criticisms as arranged. Morse Hall.

338. **Fifth Year Modeling.** Credit 6 hours each term. Mr. CAMDEN. Daily 10-12:30. Criticisms as arranged. Morse Hall.

Color

The courses in color are in sequence the representation of still life groups in pastel, oil, and water color.

*340-341-342. **Color.** Credit 2 hours each term in each course. One or two extra credit hours by special arrangement in Courses 341 and 342. Mr. STONE. Any of the three courses may be taken in either of two sections: First term—Sec. A—M W 1:40-4. Sec. B—M W 10-12:30. Second term—Sec. A only.

*370. **Graphic Arts.** Either term. Credit 2 hours for beginners; and one or two hours extra credit by special arrangement when credit for the first two hours has been earned. Prerequisite, one term of Composition 325 or three years of Architectural Design.

*371. **Elementary Drawing.** Throughout the year. Credit three hours each term. Messrs. CAMDEN and STONE. Given primarily for students not registered in the College of Architecture. Elementary study of the presentation of form. This course embraces freehand perspective, outline and shaded drawing in pencil and charcoal from geometrical models and casts. The content of this course is the same as that of Course 310. M W F 1:40-4. Franklin Hall 37.

*372. **Life Drawing.** Either term. Credit 1 hour each term. Mr. WASHBURN. M W F 9-9:50. Registration by permission of instructor only.

HISTORY

***410. History of Architecture.** First term. Credit three hours. Messrs. PHELPS and HARTELL. Egyptian, Western Asiatic, Greek, Roman, Early Christian, and Byzantine architecture. Lectures with assigned readings, sketches, and examinations. T Th S 9. White 33. Not given in 1933-34 but will be given thereafter.

***411. History of Architecture.** Second term. Credit three hours. Prerequisite course 410. Messrs. PHELPS and HARTELL. Mohammedan, Romanesque, and Gothic architecture. Lectures with assigned readings, sketches, and examinations. T Th S 9. White 33. Not given in 1933-34 but will be given thereafter.

***412. History of Architecture.** First term. Credit three hours. Prerequisite course 411. Messrs. PHELPS and HARTELL. Architecture of the Renaissance and to the beginning of the nineteenth century in the principal European countries. Lectures with assigned readings, sketches, and examinations. M W F 9. White 33.

413. Modern Architecture. Second term. Credit three hours. Prerequisite course 412 and at least one term of Junior Design. Messrs. PHELPS and DUNBAR. Nineteenth century and more recent work in the principal European countries, and the architecture of the United States from the Colonial times to the present. M W F 10. White 33. Not given in 1933-34. Will be given in 1934-35.

414. History of Painting and Sculpture, 1460-1660. Throughout the year. Credit two hours a term. Mr. FINLAYSON. After a three-week introductory survey the course will concentrate on six or eight of the major artists of the above period. Lectures, class discussions, and examinations. Th S 9. White 33. Open to 3rd, 4th, and 5th year students in the College of Architecture. Students wishing to take this course should see Mr. Finlayson before registering.

***425. History of Painting and Sculpture.** Throughout the year. Credit three hours each term. Special permission is required if the second term is taken before the first. Mr. FINLAYSON. A general survey of painting and sculpture. This course is a prerequisite for all other courses in the history of painting and sculpture, with the exception of 427. Registration limited to 50. Students taking this course must register with Mr. Finlayson on registration day. M W F 2. White 33.

***426. History of Northern Painting.** Throughout the year. Credit three hours a term. Mr. FINLAYSON. Painting in the Netherlands and in Germany, first term. Painting in France and England, second term. Either term may be elected without the other. Course 425 is a prerequisite. T Th S 11. White 33. Given in alternate years. Will not be given in 1933-34.

***427. Greek Sculpture and Italian Painting.** Throughout the year. Credit one hour each term. Mr. FINLAYSON. Designed primarily for students in the Technical Colleges of the University. Others will not be admitted except by special permission. Th 11. White 33. Given in alternate years. Will be given in 1933-34.

***428. Historical Studies in Mediaeval Art.** Throughout the year. Credit two hours each term. Mr. FINLAYSON. Some phase of Mediaeval art will be selected each term for more thorough consideration than is possible in the general survey course 425. Prerequisite course 425. T S 11. White 33. Given in alternate years. Will be given in 1933-34.

***429, 430. Historical Seminary in Painting and Sculpture.** Throughout the year. Credit two hours a term. Mr. FINLAYSON. Registration limited. Open to graduate students and qualified undergraduates. Ten hours of History of Art or their equivalent is prerequisite. By appointment. Students wishing to elect this course must register with Mr. FINLAYSON by the Monday before block week preceding the opening of the course. Exception will be made only in the case of graduate students entering the University in September.

450. History of Landscape Design. Second term. Credit three hours. Mr. MONTILLON. Lectures, sketches, and assigned reading. M W F 10. White 33.

***470. Historic Ornament.** Second term. Credit three hours. Prerequisite course 412. Mr. PHELPS. Some of the great historic styles of decoration will be analyzed and studied in detail, and the development of furniture, stained glass, and other minor arts will be briefly outlined. Lectures, sketches, and examinations. M W F 11. White 33. Students who wish to take this course must register with Mr. PHELPS on or before January 25th. Given in 1933-34. Will not be given in 1934-35.

471, 472. Historical Seminary in Architecture. Throughout the year. Credit one hour a term. Mr. PHELPS. Investigation of assigned topics in the history of architecture: review of books and discussions of current periodical literature. For graduates and open to qualified upperclassmen by permission. By appointment.

GRAPHICS

***510. Descriptive Geometry.** Throughout the year. Credit three hours each term. Messrs. BAXTER and ABBUEHL. The fundamental problems of descriptive geometry are studied and applied to the solution of problems in projection. Lectures and drawing. Sec. A, T Th S 10-12:30; Sec. B, M W F 10-12:30. White B 10.

511. Perspective. Second term. Credit one hour. Prerequisite course 510. Mr. BURNHAM. A brief study of linear perspective with special reference to direct methods in the use of the perspective plan, proportional measurements, etc. Section A, W 8-10:30. Section B, Th 8-10:30. White.

APPLIED CONSTRUCTION

610. Building Materials and Construction. Throughout the year. Credit three hours. Prerequisite 4 terms in the College of Architecture or the equivalent. Mr. TILTON. A brief study of structural materials and details of construction with particular reference to concrete, masonry, fire resisting construction, and carpentry. White 33.

611. Applied Design. First or second term. Credit nine hours. Prerequisites, courses 212, 312, 412, and 610. Mr. TILTON, assisted by one member of the design staff and one member of the construction staff. The course consists in the design of structures, with special attention to their structural elements and the use of appropriate materials, and will be paralleled with discussions on heating, plumbing, lighting, specifications and contracts, and general office practice. Discussions at 8 a. m. on W and F. White 33. Criticisms by appointment.

612. Heating, Plumbing, and Electric Work. Second term. Credit two hours. Mr. TILTON. Lectures and exercises, W F 8. White 33. Not given after 1933-34.

650. Planting Design. Either term. Credit two hours. Mr. LAWSON. Th 10-12:30. White B-6.

651. Planting Design. Either term. Credit two hours. Mr. LAWSON. Th 10-12:30. White B-6.

660. Landscape Construction. First term. Credit two hours. Prerequisite, Structural Design 211 and Earthwork C. E. 296. Mr. ————. Lectures and drawing periods. Not given in 1933-34.

COURSES OF THE REGULAR CURRICULA GIVEN OUTSIDE THE COLLEGE OF ARCHITECTURE

MILITARY SCIENCE AND TACTICS, AND PHYSICAL TRAINING

All men in the first two years of undergraduate courses must, in addition to the scholastic requirements for the degree, take three hours a week in the Department of Military Science and Tactics. This department is a unit of the Reserve Officers' Training Corps of the United States Army. The students are organized in an infantry regiment of twelve companies, a regiment of field artillery, two signal corps companies, and a band.

For details of the work in the Department of Military Science and Tactics, see the General Information Number.

All women in the first two years of undergraduate courses, and all men of those two classes who are excused from the military drill, must, in addition to the scholastic requirements for the degree, take three hours a week in the Department of Physical Training.

For details of the work in the Department of Physical Training, see the General Information Number.

HYGIENE AND PREVENTIVE MEDICINE

All students in the first year of undergraduate courses are required to attend lectures on Hygiene and Preventive Medicine given once a week throughout the college year. See Announcement of Courses page 27.

COURSES GIVEN IN THE COLLEGE OF ARTS AND SCIENCES

MATHEMATICS

Mathematics Make-up Permits

Permits must be secured from, and approved by, the Department of Mathematics at least one week before the date scheduled for the make-up examination.

2. **Advanced Algebra.** Repeated in second term. Credit three hours. M W F 9, T Th S 9.

3. **Plane Trigonometry.** Repeated in second term. Credit three hours. First term, M W F 10; second term, T Th S 10.

8. **Analytic Geometry and Calculus.** Throughout the year. Credit three hours a term. Prerequisite, Mathematics 1, 2, 3, or the equivalent. Primarily for students in the College of Architecture. M W F 8, T Th S 8.

ENGLISH

1. **Elementary Composition and Literature.** Throughout the year. Credit three hours a term. Messrs. BALDWIN, ADAMS, BISSELL, ELSON, GIDDINGS, HARRIS, MULLER, TENNEY, and WENTWORTH. M W F 8, 9, 10, 11, 12; T Th S 8, 9, 10, 11. Rooms to be announced.

This course is open to underclassmen in Agriculture, Architecture, Chemistry, and Home Economics who have satisfied the entrance requirements in English. A study of composition in connection with the reading of representative works in English literature. Students who have not taken the course in the first term may enter in the second term.

Students who elect English 1 must apply at Roberts 292 on Monday, Tuesday, or Wednesday, of registration week for assignment to sections. Registration in the course is in charge of Mr. BALDWIN.

PHYSICS

3. **Introductory Experimental Physics.** First term. Credit three hours. Lectures, Assistant Professor HOWE. Laboratory, Messrs. MANN, TRAWICK, and ———. One two-hour period a week, to be arranged.

Demonstration lectures and laboratory work covering properties of matter, sound and light.

Courses 3 and 4 form a continuous first course. Course 4 may be taken before course 3 if this sequence is preferred.

4. **Introductory Experimental Physics.** Second term. Credit three hours. Lectures, Professor MERRITT. Laboratory, staff, as for course 3. One two-hour period a week to be arranged.

Demonstration lectures and laboratory work covering heat, magnetism, and electricity.

CHEMISTRY

101. **Introductory Inorganic Chemistry.** Lectures. Repeated in the second term. Credit three hours. Professor BROWNE and Assistant Professor LAUBENGAYER.

Examinations for those who were unavoidably absent from the final examination in courses 101 and 105 will be held at 2 p. m. on the day before instruction begins in the fall.

105. **Introductory Inorganic Chemistry.** Recitations and laboratory practice. Repeated in the second term. Credit three hours. Recitations, one hour a week, to be arranged. Professor BROWNE, Assistant Professor LAUBENGAYER, and assistants.

Chemistry 101 and 105 must be taken simultaneously unless permission is obtained by the student from the Dean of his college and from the Department of Chemistry to take either course alone.

GEOLOGY

100. **Introductory Geology.** Repeated in the second term. Credit three hours. Professor RIES, Dr. BURFOOT, Mr. MEGATHLIN, and Mr. CONANT. Lectures and laboratory. First term lectures, T Th 11. Second term lectures, T Th 9.

Students must register for laboratory assignment at Geological Laboratory, McGraw, before the beginning of the course. The fundamental principles of this branch of science. The inorganic aspects of the subject are emphasized more than the organic.

COURSE GIVEN IN THE MEDICAL COLLEGE

24. **Anatomy for Artists.** Throughout the year. Credit three hours a term. Professor KERR. A study of the bones, muscles and other structure that affect the surface form and posture. One lecture and one or two drawing periods a week; hours to be arranged. Given in alternate years. Will not be given in 1934-35.

COURSES GIVEN IN THE COLLEGE OF AGRICULTURE

8. **Woody Plant Materials.** First and second terms. Credit four hours a term. Intended for advanced and graduate students. Registration by permission of the department. Lecture, T Th 9. Plant Science 37. Laboratory and field trips, M and either W or F 1:40-4. Plant Science 29. Professor R. W. CURTIS and Mr. WYMAN.

A study of the trees, shrubs, and vines used in landscape planting and in nursery work. All members of the class will be required to participate in two excursions to the Rochester parks, one in each term. Laboratory fee, \$4.

SUMMER SESSION, 1934

S 6. Garden Flowers. Credit two hours. Lectures, M T Th 9; F 12. Plant Science 37. Laboratory, W F 1:40-4:30. Plant Science 15 and Greenhouses. Assistant Professor MINNS. Laboratory fee, \$2.

This course, planned primarily for graduate and advanced students in floriculture and ornamental horticulture, comprises a study of herbaceous plant materials. The aim is to give the student such an intimate knowledge of these forms of plants as may be used in garden planting, either on home grounds, rural social centers, or public parks, more particularly with reference to summer conditions. Students must have had sufficient botany to be familiar with the botanical characters and classification. An excellent collection of plant material is available for demonstrations. All members of the class will participate in an excursion to the Thompson Estate at Canandaigua on August 10 and 11.

S 8. Woody Plant Materials for Landscape Planting. Credit four hours. Lectures, M T Th F 8. Laboratory and field trip, M T 10-12:30, W Th 11-1, M T 1:40-4:30. Plant Science 29 and Campus. Professor R. W. CURTIS. Laboratory fee, \$3.

A study of the characteristics and requirements of trees, shrubs, and vines for landscape planting. The laboratories and field trips enable the student to recognize common woody plants. The lectures discuss planting areas, planting practices, and plant materials, in order that the student may learn to see plants not only as growing things but as possible units in designs with which he may be able to improve his surroundings. All members of the class must participate in an excursion to Rochester on August 10 and 11 to visit private estates and public parks. The transportation charge will be \$5.

COURSES GIVEN IN THE COLLEGE OF ENGINEERING

110. Elementary Surveying. Freshmen. Either term as assigned. Credit three hours. Use of steel tape, level and transit; fundamental surveying methods; measurement of lines, angles and differences of elevation; land surveying; areas and plotting. Recitations, field work, computations, and mapping. Textbook: Breed and Hosmer's *Elementary Surveying*. First term, one recitation and two field or computation periods a week; Second term, three recitations a week for the first six weeks and three field or computation periods a week for the remainder of the term. Professor UNDERWOOD, Assistant Professor LAWRENCE, and others.

225. Materials of Construction. Juniors. Credit three hours. The materials studied are: Lime, cement, stone, brick, sand, timber, ores, cast iron, wrought iron, steel, and some of the minor metals and alloys. The chemical and physical properties, uses, methods of manufacture, methods of testing, and unit stresses of each material are considered, particular emphasis being laid on the points of importance to engineers. Three recitations a week. Textbook: Moore's *Materials of Engineering*. Professor SCOFIELD.

226. Materials Laboratory. Juniors. Either term. Credit three hours. Prerequisite course Arch. 210 and must be taken with or preceded by C. E. 280. Experimental determination of the properties of materials by mechanical tests. Study of testing machines (their theory, construction, and manipulation); calibration of testing machines and apparatus; commercial tests of iron and steel: tensile, compressive, torsional, shearing, and flexure tests of metal and various woods and stress-strain observations; tests of cement, concrete aggregate, concrete, plain and reinforced, and of road material and paving brick. The course is planned to supplement Course 225 with its study of the properties of materials by the actual handling of the materials and by observations of their behavior under stress. Laboratory work two 2½ hour periods a week. Professor SCOFIELD.

227. Testing of Materials. (Laboratory.) First term. Credit one hour. Given especially for students in the College of Architecture. A brief course in laboratory methods comprising tests of beams and columns in steel, wood and concrete. Professor SCOFIELD.

270. Structural Design and Bridge Stresses. Juniors. Either term. Credit four hours. Prerequisite courses 220 and 221.

Structural Design. The recitations cover the graphic analysis of simple beams and roof trusses. The computations and drawings include complete detail designs and working drawings of wooden joints to resist large tensile stresses, and of a wooden roof truss for given specifications. The object of the course is to show how to apply the principles of mechanics to the design of every detail of the simple structures named, and to study the forms and strength of joints and fastenings used in heavy timber framing. The computations required are to be arranged in systematic order in the form of reports. Textbook: Jacoby and Davis's *Timber Design and Construction*. Computation and drawing, two and one-half hours a week.

Bridge Stresses. Stresses due to dead, live and wind loads, initial tension, and impact; panel loads and locomotive axle loads; determination of the position of live loading for greatest stresses; maximum and minimum stresses; analytic and graphic methods are used. The principal types of simple trusses employed in modern construction are considered, in several cases both with and without counter bracing; three-hinged bridge and roof arches. The solution of many numerical examples taken from practice forms a prominent part of the class work. Textbook: Urquhart and O'Rourke's *Stresses in Simple Structures*. Three recitations a week. Professor URQUHART, Assistant Professors BURROWS and O'ROURKE, and Messrs. CHAWNER and PFISTERER.

271. Structural Design. Juniors. Either term. Credit three hours. Prerequisite course 270. An elementary course in Steel Design. Complete design, detail drawing, bill of material and estimate of weight of a steel roof truss and of a through and deck railroad plate girder bridge. Textbook: Urquhart and O'Rourke's *Design of Steel Structures*. Three computation and drawing periods a week. Professor URQUHART, Assistant Professors BURROWS and O'ROURKE, and Messrs. CHAWNER and PFISTERER.

272. Higher Structures. Elective. Seniors and graduates. Either term. Credit three hours. Prerequisite courses 220, 221 and 270. Determination of the loading and stresses in continuous girders and trusses, and metallic arches. The arches include arch ribs and trussed arches with three and two hinges, respectively. Both analytic and graphic methods are used; the latter include displacement diagrams to find the deflection of trusses and the reactions of statically indeterminate structures, and the use of influence lines to find their loading and stresses. Recitations three hours a week. Professor URQUHART and Assistant Professor O'ROURKE.

273. Steel Buildings. Elective. Seniors and graduates. First term. Credit three hours. Prerequisite courses 220, 221, and 271. This course comprises the design of the steel framework for buildings of the prevailing type used in power house or shop construction. Dead, snow, and wind stress diagrams are drawn for the roof trusses. Provision is made for an electric crane moving the full length of the building and the stresses in the framework due to the movement of the crane are determined. The effect of the wind and the eccentric load due to the crane girder are considered in the design of the columns. Textbook: Ketchum's *Steel Mill Buildings*. Reports and drawings. Three two-hour periods a week. Assistant Professor BURROWS.

280. Concrete Construction. Juniors. Either term. Credit three hours. Prerequisite courses 220, 221, and 225. Concrete materials, properties of plain concrete, its making and deposition; elementary theory of reinforced concrete as applied to columns, rectangular beams and slabs; T-beams and beams reinforced for compression; direct stress combined with flexure. Three two-hour periods a week. Textbook: Urquhart and O'Rourke's *Design of Concrete Structures*. Professor URQUHART, Assistant Professor O'ROURKE, and Messrs. CHAWNER and PFISTERER.

281. Foundations. Juniors. Either term. Credit three hours. Prerequisite courses 220 and 221. Piles and pile driving, including timber, concrete, tubular

and sheet piles; cofferdams; box and open caissons; pneumatic caissons for bridges and buildings, caisson sinking, and physiological effects of compressed air; pier foundations in open wells; freezing process; hydraulic caissons; ordinary bridge piers; cylinders and pivot-piers; bridge abutments; spread footings for building foundations; underpinning buildings; subterranean explorations; unit loads. Textbook: Jacoby and Davis's *Foundations of Bridges and Buildings*. Recitations, collateral reading in engineering periodicals, and illustrated reports. Three hours a week. Professor URQUHART and Assistant Professor O'ROURKE.

282. Reinforced Concrete Building Design. Elective. Seniors and graduates. Either term. Credit three hours. Prerequisite course 280. Design of a reinforced concrete flat-slab building and investigation of various other types of floor systems for commercial buildings. Complete detail design for one building, including stairway, elevator shafts, penthouses, etc. Working drawings and steel schedules. Seven and one-half hours a week. Textbook: Urquhart and O'Rourke's *Design of Concrete Structures*. Professor URQUHART and Assistant Professor O'ROURKE.

285. Reinforced Concrete Design. Elective. Seniors and graduates. Either term. Credit three hours. Prerequisite course 280. Theory and design of gravity, cantilever, and counterfort retaining walls. Design of footings: single and multiple columns of reinforced concrete, I-beam grillages. Design of bins and tanks, subsurface and supported on towers. Reports and sketches. Three two-hour periods a week. Professor URQUHART and Assistant Professor O'ROURKE.

286. Building Construction. Elective. Seniors and graduates. First term. Credit three hours. Lectures and quizzes. The general plan includes one lecture each week by a practicing engineer or architect well known in his particular field. This is followed by a supplementary lecture by a member of the University staff. In 1932-33 the field covered included lectures on: The Field of the Consulting Engineer; the Conception and Execution of a Building Project; The Financial Plan in Building Operations; Fire Protection; Testing Materials; Building Codes; Licensing; Concrete and Reinforced Concrete; Foundations; Steel Frame Buildings and Their Erection; Welding; Exterior and Interior Finish; Synchronizing Operations; Maintenance and Remodeling; The State Building Program. Professor URQUHART.

The non-resident lecturers in 1932-33 were:

T. H. MCKAIG, Consulting Engineer, Buffalo, N. Y.

A. L. BROCKWAY, Architect, Syracuse, N. Y.

LINTON HART, The Gow Company, New York City.

M. J. ROACH, Turner Construction Company, New York City.

F. P. MCKIBBEN, General Electric Company, Schenectady, N. Y.

T. L. COLLUM, Contractor, Syracuse, N. Y.

JOHN PARKE, Marc Eidlitz and Son, New York City.

R. HAROLD SHREVE, Architect, New York City.

S. E. HUNKIN, Contractor, Cleveland, Ohio.

A. C. HUTSON, Assistant Chief Engineer, National Board of Fire Underwriters, New York City.

W. P. BEARDSLEY, Architect, Auburn, N. Y.

M. A. TIMLIN, Consulting Engineer, Philadelphia, Pa.

H. V. SPURR, Consulting Engineer, New York City.

W. E. HAUGAARD, Commissioner of Architecture, New York State Department of Public Works, Albany, New York.

290. Engineering Law. Seniors. Juniors admitted only by special permission of the faculty. Also open to seniors in Architecture, Mechanical and Electrical Engineering, Chemistry, and other seniors submitting acceptable qualifications. Either term. Credit three hours. Basic essentials of contracts and contract principles; agency, tort and independent contractor; laws regulating acquisition, use and conveyance of lands and waters, including irrigation law, real estate documents, boundary lines, wills, eminent domain and title searches; corporations, partnerships and other contracts of association; sales and transporta-

tion contracts; negotiable instruments; bankruptcy, mechanics liens, patents, trademarks, copyrights, courts, and laws of insurance. The course culminates with the preparation of a set of contract documents for an assigned construction job, including advertisement, surety bond, form of proposal, information to bidders, agreement form, general conditions and specifications with full discussion of important clauses such as payments, time limit, arbitration, extras, liquidated damages and abandonment of contract. Tucker's "Contracts in Engineering" is used as a text, supplemented liberally from other sources. Lectures and recitations. Three hours a week. Professor BARNES and Assistant Professors CRANDALL, PERRY, and THATCHER.

HYGIENE AND PREVENTIVE MEDICINE

1. **Hygiene.** First term. Required of all Freshmen. One lecture recitation each week with preliminary examination and final. The use of a textbook will be required.

Registration and assignment to section: Men, Old Armory; Women, Sage Gymnasium.

Sections for men: Professor D. F. SMILEY; Assistant Professors A. G. GOULD, E. C. SHOWACRE, WEBB YORK; Instructors C. F. HAWKINS, P. J. ROBINSON.

Sections for women: Assistant Professor JENNETTE EVANS; Instructors MURIEL CUYKENDALL, ELIZABETH EDMUNDS.

2. **Hygiene.** Second term. Required of all Freshmen. One lecture recitation each week with preliminary examination and final. The use of a textbook will be required.

Registration and assignment to section: Men, Old Armory; Women, Sage Gymnasium.

Sections for men: Professor D. F. SMILEY; Assistant Professors A. G. GOULD, E. C. SHOWACRE, WEBB YORK; Instructors C. F. HAWKINS, P. J. ROBINSON.

Sections for women: Assistant Professor JENNETTE EVANS; Instructors MURIEL CUYKENDALL, ELIZABETH EDMUNDS.

3. **Health Supervision of School Children.** Second term. Credit two hours. Assistant Professor GOULD. T Th 12. Histology lecture room, Stimson. Registration at Hygiene Office, Old Armory.

A practical course of lectures and demonstrations designed to familiarize the students with the facts and methods necessary for making an effective health supervision of school children. Prerequisites, suggested but not demanded: Human Physiology and Anatomy. Open to sophomores, juniors, and seniors.

4. **Hygiene: Advanced First Aid.** Credit one hour. First term; repeated in second term. Prerequisites, Hygiene 1 and 2 and Human Anatomy or Human Physiology. Enrollment limited, and registration only after conference with the professor in charge.

First term: F 9, Anatomy Lecture Room, Stimson. Second term: Sat. 9, Anatomy Lecture Room, Stimson. Assistant Professor SHOWACRE.

This course includes the theory of the diagnosis and temporary treatment of the common emergencies with practical application of the essential fundamentals.

5. **Industrial Hygiene.** First term. Credit one hour. Assistant Professor GOULD. Th 12. Histology lecture room, Stimson. Registration at Hygiene Office, Old Armory. Prerequisites, Hygiene 1 and 2.

Factory sanitation, ventilation and illumination; occupational poisoning and disease; factory legislation; accident prevention; fatigue in industry; preventive medicine in the industries.

6. **School Hygiene.** First term. Credit two hours. Professor YOUNG. T Th 12. Goldwin Smith 242. For juniors and seniors. Sanitary aspects of school environment; methods and scope of health instruction. See Physical Education 24.

7. **Hygiene: Rural Hygiene.** Second term. Credit one hour. Prerequisites, Hygiene 1 and 2. W 12. Anatomy Lecture Room, Stimson. Professor SMILEY. A general consideration of the health problems peculiar to rural areas with the presentation of practical schemes for the solution of these problems as far as possible. Registration at Hygiene Office, Old Armory.

8. **Hygiene: Mental Hygiene.** First term. Repeated in second term. Credit two hours. Prerequisites, Hygiene 1 and 2. Section 1. T Th 2. Histology Lecture Room, Stimson. Assistant Professor YORK. Section 2. W F 2. Histology Lecture Room. Stimson. Assistant Professor JENNETTE EVANS.

A study of the factors involved in the maintenance of mental health of the individual; i. e., satisfactory human relationships, attitudes, and behavior. Discussion of the causes and mechanisms underlying the more common personality deviations.

ELECTIVE COURSES

In each of the courses of study offered, approximately one-fifth of the required work is elective. No restriction in the choice of electives is made except that each student, before starting his elective work, is required to file with the College office his entire program of elective study, approved by some member of the Faculty.

INFORMAL STUDY

Students who, having attended another institution of collegiate grade, are admitted with a considerable amount of advanced credit and those who have done particularly high grade work in this College may be admitted to an Informal Study Course designed to facilitate progress.

Admission to an Informal Study Course can be granted tentatively by the Committee on Admissions but in every case must be confirmed by the Faculty.

A student admitted to such a course is assigned to the personal direction of some member of the Faculty and may be relieved of the rigidity of the curriculum requirements in such main branches of the curriculum as may be designated by the Faculty. He is then required to do such special work as may be determined upon by the Faculty Director.

The student's progress is checked up from time to time by the Faculty and credit voted towards the degree.

